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EXAMINER
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WEI, ZHENG

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2192

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/723,085  
Filing Date: November 26, 2003  
Appellant(s): GLIDER ET AL.

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Peter A. Balnave  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 08/04/2008 appealing from the Office action mailed 03/04/2008 and last ORDER from BPAI mailed on 08/19/2009. The issue regarding to Grounds of Rejection to be Reviewed on Appeal now has been corrected as annotated in section (6) of this Examiner's Answer.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

**WITHDRAWN REJECTIONS**

The following grounds of rejection are not presented for review on appeal because they have been withdrawn by the examiner.

- The 35 U.S.C. § 112, second paragraph rejection to Claims 2-5, 8-11 and 16-19 is withdrawn in view of appellant's amendment filed on 05/05/2008 and considered by Examiner in advisory action mailed on 06/18/2008.

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

2003/0092438	Moore et al.	05-2003
6,385,770	Niklas Sinander	05-2002
7,107,329	Schroder et al.	09-2006

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

- Claim 1-5, 7-11, 13 and 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moore (Moore et al., US 2003/0092438) in the view of Sinander (Niklas Sinander, US 6,385,770 B1) in further view of Schroder (Schroder et al., US 7,107,329 B1)

Claim 1, 7, 13 and 15:

Moore discloses a method and apparatus for revising a software application used by a plurality of nodes in a computer network, wherein said software application utilizes persistent data, said method comprising:

- Applying an upgrade to a next level of software (see for example, Fig.4, step 118-120, UPGRADE and related text)

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- Converting all persistent data structures to new version format (see for example, Fig.4, step 120 CONVERT STAE DATA TO NEW VERSION FORMAT and related text)
- Applying a downgrade to a previous level of software. (see for example, Fig.3, items 102 and related text)
- Converting all persistent data structures into the old persistent data structure format. (see for example Fig.3, item 112 and related text)
- Applying a downgrade to a second previous level of software that understands said old persistent data structure formats. (Fig.4, items 116-122)

But does not explicitly disclose about two-level software upgrading. However, Sinander in the same analogous art of software upgrade discloses a method and system for upgrading a software application utilizes all kinds of data, said method and system comprising:

- Applying an upgrade to a first part of an upgrade framework to upgrade system software; ( Col 3, Lines 54-58; also see Col.4:11-13, "upgrade content 1 will be carried out, upgrading the system from software system version V0 to V1"; Col.4, Lines 42-44, "Following, upgrade content 1 is executed, upgrading the software system form software system version V0 to software system version V1")
- Executing a plurality of upgrade contents to convert data structure; (Col 2, Lines 6-16)
- Applying an upgrade to a second part of the upgrade frame to upgrade system software; ( Col 3, Lines 54-58; also see Col.4, Lines 13-14, "Thereafter, upgrade, upgrade content2 is executed, upgrading the software system from version V1 to version V2"; Col.4, Lines 62-67, "Following to upgrade content 2 tasks of a second part of the upgrade framework are executed...in the above case version V2")

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use Sinander's upgrade method combine with Moore's software upgrade/downgrade method. One would have been motivated to integrate Sinander's upgrade method to Moore's upgrade method as suggested by Sinander (see for example, ABSTRACT, "The invention allows to upgrade a software system in a real-time environment using a source system operating with an old software version and a target system for operating with the new software version and allows to handle static as well as dynamic data").

But neither of them further discloses both upgrade processes and both downgrade processed occur without disruption of communication between said nodes. However, Schroder in the same analogous art of upgrading software of network nodes discloses a method for updating routers (nodes) software in network without traffic interruption (see for example, Fig.1B, the upgrade process by using "hot swap" implementation, "Before Upgrade", "During Upgrade", "After Upgrade" and related text).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use Moore and Sinander's method to prepare new software information including revisions and upgrades as address above and further use Schroder's method to swap the original and upgraded software in the node without service disruption. One would have been motivated to do so to support network node software/firmware upgrade without traffic interruption as suggested by Schroder (see for example, col.2, lines 18-24, "after such preparing of the new software information, swapping the same for the original software data routing along said path without interruption, and imperceptibly to all the other router nodes in the router system")

Claim 2, 8 and 16:

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Sinander, Moore and Schroder disclose a system and method to upgrade software application utilizes persistent data as in claims 1, 7, and 15 above, but does not explicitly disclose that the persistent data structures comprise communication packet structures. However, Sinander further discloses the system and method for software upgrade could be used in a real time application of telecommunications network (Col1, Line41-44) and switch communication links (Col2, Line36). That would have been obvious to one having ordinary skill in the art at time the invention was made to understand that these networks, like ATM, IP networks use packet (ATM cells or IP packet) for communication based on different kinds of network protocols. Therefore, one would have been motivated to use persistent data structure to represent the packet structure in software programming in order to make software implementation simpler and easier.

Claim 3, 9 and 17:

Sinander, Moore and Schroder disclose a system and method to upgrade software application as in claims 2, 8 and 16 above and Sinander further discloses that the distributed system including a plurality of nodes (Co.10, lines 47-50, "In case the source system is operating a mobile telephone network, the devices may be mobile telephones or nodes of the network.") holding non-volatile memory data structure. (Col.6, lines 36-48),

Claims 4, 10 and 18:

Sinander, Moore and Schroder disclose a system and method to upgrade software application as in claims 3, 9 and 17 above and Sinander also discloses that said nodes communicate with one another. (Col.10, lines 47-50, "In case the source system is operating a mobile telephone network, the devices may be mobile telephones or nodes of the network."). Therefore, it is obvious for a person with ordinary skill in the art at time the invention was made to understand

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that the “mobile telephone or nodes of the network” can communicate to each other.

Claims 5, 11 and 19:

Sinander, Moore and Schroder disclose a system and method to upgrade software application as in claims 4, 10 and 18 above and Sinander further discloses that said nodes communicate with one another. (Col.10, lines 47-50, “In case the source system is operating a mobile telephone network, the devices may be mobile telephones or nodes of the network.”). Therefore, it would have been obvious to one having ordinary skill in the art at time the invention was made to understand that said nodes, like mobile telephones or nodes in networks can use communication packet to communicate between each other.



**(10) Response to Argument**

**A. Claims 1, 7, 13 and 15 (Brief pages 12-13)**

The Appellants submit that “the first and second parts of the ‘upgrade framework’ of Sinander are not analogous to the first and second next/previous levels of software to which upgrades/downgrades are applied” (p.13, 2<sup>nd</sup> paragraph) and “In contrast, the present invention describes applying an upgrade (downgrade) to a first next (previous) level of software and applying an upgrade (downgrade) to a next (previous) level of software and applying an upgrade (downgrade) to a second next (previous) level of software . Upgrades and downgrades, not first and second groups of processes involved in an upgrade as described by Sinander, are applied to first and second levels of software (i.e., that is, a level of a software application in its entirety)” (p.13, 3<sup>rd</sup> paragraph)

In response, the Examiner respectfully disagrees.

It should be noted that the first and second parts of the “upgrade framework” of Sinander as the Appellants argued are being used to execute, perform and/or apply the upgrade content 1 and content 2 (Fig.1 of Sinander), wherein “each of the upgrade contents comprising tasks specific for the corresponding software system upgrade” (col.3:43-45 --emphasis added--) and “Further, an upgrade be desired from software system version V0 to software system version V2” (col.4: 29-30). When the “upgrade framework” is executed or applied, the “upgrade content 1 will be carried out, upgrading the system from software system version V0 to V1. Thereafter, upgrade content 2 is executed, upgrading the software system from V1 to version V2” (col.4:10-13, --

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emphasis added--). Therefore, “upgrades” and/or “downgrades” as Sinander further disclosed: “Following, upgrade content 1 is executed, upgrading the software system from software system version V0 to software system version V1... After the specific task of upgrade content 1 are completed, upgrade content 2 is executed. This again involves specific tasks, now specific for upgrade content 2... Following to upgrade content 2 task of a second part of the upgrade framework are executed... It also includes resuming operations, now in accordance with the new software system version, in the above case version V2” (Sinander, col.4:42-44, 51-53 and 62-67), thus, it clearly indicates that said “upgrades” of Sinander does being applied to multiple software version levels, i.e. from V0→ V1 which is the first level of software and from V1→ V2 which is corresponding to the second next level of software as the Appellants argued.

#### **B. Claims 1, 7, 13 and 15 (Brief page 14)**

The Appellants submit that "Schroder does not cure the deficiencies of Moore and Sinander (p.14, 3<sup>rd</sup> paragraph). It should be noted that the Appellants merely rely on the same argument for the limitations of claims 1, 7, 13 and 15 as discussed above. In response, please see bullet A of the Examiner's response as addressed above.

#### **(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

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For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Zheng Wei/

Examiner, Art Unit 2192

Conferees:

/Tuan Q. Dam/

Tuan Q. Dam

Supervisory Patent Examiner, Art Unit 2192

/Lewis A. Bullock, Jr./

Supervisory Patent Examiner, Art Unit 2193